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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/299,965	04/26/1999	Clayton A. George	54570US 002	3907

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EXAMINER	
AFTERGUT, JEFF H	

ART UNIT	PAPER NUMBER
1733	

DATE MAILED: 09/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/299,965	GEORGE ET AL.	
	Examiner	Art Unit	
	Jeff H. Aftergut	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 July 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,7-14 and 16-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,7-14 and 16-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-3, 7, 9, 10, 19, 20, 22, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Frauenglass et al for the same reasons as expressed in paragraph 2 of the Office action dated April 27, 2004.

The claims at hand do not exclude a metal fastener which incorporated a coating of the specified curable polymer of Frauenglass et al thereon. Note that Frauenglass et al suggested that the coating was preapplied to the fastener and as such would have clearly suggested that one skilled in the art provide a fastener which was fabricated from a curable material. Note that the language presented in the claim is open claim language and applicant has failed to state that the fastener consisted of a curable material or that it was fabricated only from a curable material. As such, the language of the claim is open and one reading the claim would have understood that application of a coating of the material upon the surface of the fastener would have resulted in a fastener comprising a fastener of metal and curable composition thereon as a fastening component.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-3, 7, 9, 10, 13, 16, and 18-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen in view of Frauenglass et al or alternatively Frauenglass

et al in view of Cohen for the same reasons as presented in paragraph 4 of the Office action dated April 27, 2004.

5. Claims 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 4 further taken with any one of Alexander et al, Bachman et al or Pearce, Jr. for the same reasons as expressed in paragraph 5 of the Office action dated April 27, 2004.

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 4 further taken with either the Modern Plastics Encyclopedia 1983-84 or the admitted prior art for the same reasons as expressed in paragraph 6 of the Office action dated April 27, 2004.

7. Claims 1-3, 7, 9, 10, 13, 14, 16 and 18-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen in view of Frauenglass et al or alternatively Frauenglass et al in view of Cohen either of which is further taken with Melbye et al.

The rejection of the claims over Cohen in view of Frauenglass et al is discussed at length in paragraph 4 above and applicant is referred to the same for a complete discussion of the rejection. It is clear from the discussion above that the claims at hand do NOT require that the fastener be completely fabricated from the thermoplastic and thermosetting (curable) materials. However, it should be noted that the reference to Cohen suggested that a suitable fastener component with a thermosetting coating thereon would have included a hook and loop type fastener. The reference did not state that the hook and loop fastener material was formed from a thermoplastic material. However, having a fastener component formed from a thermoplastic material would

satisfy the claim as presented (assuming that the claim is requiring that the fastener be formed completely of the polymeric material wherein the polymeric material included both a thermoplastic and a curable component) in that the core of the fastening component would have been thermoplastic and the exterior of the component would have a coating of a mixture of a thermoset and a thermoplastic material as envisioned by Frauenglass.

Those skilled in the art at the time the invention was made would have known to incorporate a fastener which replaced a hook and loop type fastener component with a mushroom shaped fastener component wherein the component was completely formed from thermoplastic with a backing and the mushroom shaped component attached to the same as evidenced by Melbye et al. More specifically, Melbye suggested that the specific mushroom configuration was a suitable substitute for the hook and loop configuration of Cohen. Additionally, the fastener was formed completely from thermoplastic material. Application of the thermosettable coating of material on the thermoplastic fastener would have resulted in a fastener which was completely fabricated from thermoplastic and thermosettable (curable) materials. As it was an art recognized alternative to employ a thermoplastic fastener as an alternative to a hook and loop fastener, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the fastener of Melbye in the fastener of Cohen wherein the fastener component was coated with a curable thermosetting material such as that of Frauenglass et al.

8. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 4 further taken with Lu et al or Appeldorn for the same reasons as expressed in paragraph 8 of the Office action dated April 27, 2004.

9. Claims 20 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 5 further taken with Crivello et al for the same reasons as expressed in paragraph 9 of the Office action dated April 27, 2004.

10. Claims 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 7 further taken with any one of Alexander et al, Bachman et al, or Pearce, Jr.

While the reference to Frauenglass et al suggested the overall adhesive composition which was useful as an alternative to an encapsulated epoxy resin (and Cohen suggested the use of an epoxy resin in conjunction with the fastener), the reference failed to teach that one would have recognized that an epoxy resin would have been an alternative material to the anaerobic adhesive material in the operation (where the thermosetting resin was mixed with the thermoplastic resin). Thus the references as set forth above in paragraph 7 failed to teach that one skilled in the art would have selected an epoxy resin for the curable component rather than the anaerobic adhesive of Frauenglass et al. However, in the art of applying adhesive to mechanical fasteners, it was known per se to apply as an alternative to an anaerobic adhesive an epoxy adhesive material as evidenced by any one of Alexander et al

(column 4, lines 29-36) or Bachmann et al (column 3, line 47-column 4, line 17), or Pearce, Jr (column 4, lines 23-46). The references to any one of Alexander et al, or Bachmann et al, or Pearce, Jr suggested that those skilled in the art would have recognized that for permanently securing mechanical fasteners together one skilled in the at would have found that the epoxy resins would have been a functionally equivalent alternate expedient to anaerobic adhesive materials. Because it was an art recognized equivalent to anaerobic thermosetting adhesive materials, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the epoxy adhesive for the anaerobic adhesive as suggested by any one of Alexander et al, Bachmann et al or Pearce, Jr in the process and mechanical fastener as set forth above in paragraph 7.

11. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 7 further taken with either one of Modern Plastics Encyclopedia 1983-84 or the admitted prior art .

While the reference to Frauenglass et al suggested that those skilled in the art at the time the invention was made would have incorporated a thermoplastic polyester for the thermoplastic component of the adhesive, there is no express teaching that the polyester employed therein was amorphous (semi-crystalline) as defined. Thus the combination as presented above in paragraph 7 failed to meet the requirement of an amorphous polyester material. The applicant is advised, however, that those skilled in the art at the time the invention was made would have known that semi-crystalline polyester material were available as polyester material for use in composite laminate as

suggested by the Encyclopedia of Modern Plastics and the admitted prior art. The applicant is advised that both suggested the existence of semi-crystalline polyesters as a useful thermoplastic polyester material. additionally, because the reference to Frauenglass et al suggested the use of thermoplastic polyesters, it certainly would have been within the purview of the ordinary artisan to test and select a suitable thermoplastic polyester material for use in the above mentioned fastener system. It would have been obvious to select a suitable polyester material including those known polyesters which were amorphous as suggested by the Encyclopedia of Modern Plastics 1983-84 and the admitted prior art in the mechanical fasteners as set forth above in paragraph 7.

12. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 7 further taken with Lu et al or Appeldorn.

While the reference to Cohen suggested that those skilled in the art at the time the invention was made would have incorporated a hook and loop fastener component for the mechanical fastener, other repositionable fasteners were known to the artisan as an alternative type of fastener for mechanical fasteners which included those containing protrusions which were mated with recesses in the complementary component of the fastener as evidenced by Lu et al or Appledorn. Note that the reference to Melbye suggested one alternative form of the fastener which included the mushroom configuration, as expressed above in paragraph 7. To employ a different configuration would have been within the purview of the ordinary artisan as an alternative to the hook and loop arrangements. More specifically each of Appledorn or Lu et al suggested that

those skilled in the art at the time the invention was made would have incorporated a fastener component which included a recessed component which mated with a protruding component and suggested that this arrangement for a fastener would have been an alternative construction for the fastener to the hook and loop arrangement of Cohen. Because it would have been viewed as a functionally equivalent alternate expedient to the use of a hook and loop fastener arrangement, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the arrangement of protruding components which were mated with complementary recessed components of another fastener component in place of the hook and loop arrangement of Cohen and Melbye in the mechanically attached adhesive fastener as set forth above in paragraph 7.

13. Claims 20 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 10 further taken with Crivello et al.

The references as set forth above suggested that those skilled in the art at the time the invention was made would have incorporated an epoxy resin for the thermosetting component, however they failed to teach the use of a functionalized thermoplastic (wherein the functional groups associated with the thermoplastic were thermosetting groups like epoxy). Additionally, there is no disclosure of the use of radiation to cure the resin employed in the operation. However, one skilled in the art of resin formulation would have known that as an alternative to epoxy resins one would have suitably employed a functionalized thermoplastic wherein the functional group associated with the resin included a thermosetting resin as evidenced by Crivello et al.

the reference to Crivello additionally suggested that the resins would have been cured with radiation curing once the assembly was set in the desired position. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Crivello as an alternative to use of an epoxy resin alone as such would have afforded one the ability to cure the material with radiation (rather than just either having to apply heat or wait until the resin had hardened) in the operation of making a fastener component as set forth above in paragraph 10.

Response to Arguments

14. Applicant's arguments with respect to claims 1-3, 7-14, 16-28 have been considered but are moot in view of the new ground(s) of rejection.

The applicant argues that the amended claim requires that the fastener component be formed completely from the mixture of the thermoplastic and thermosetting materials. However, as expressed above and repeatedly in the previous Office action, the claims at hand are open in that they do not recite that the fastener is formed only of the curable composition or that it consists of the curable composition (wherein one would have clearly excluded the use of a metal component within the fastener arrangement). As such the application of a coating upon the fastener which was preapplied would have satisfied the claim language as presented.

In the event that one were to interpret the claim to mean that the fastener was fabricated only of the specified materials (as argued by applicant), the applicant is referred to the rejection presented above in paragraph 7 where the fastener would have been formed from thermoplastic material and would have been provided with the

preapplied coating of the thermoset and thermoplastic polymer (as proposed by Frauenglass). Clearly, such an arrangement would have resulted in a fastener arrangement which included only thermoplastic and curable materials therein in the fastener. As such, the exclusion of a metal fastener component is clearly satisfied by this arrangement. It should be noted that the claims as presented do not require that the thermoplastic and curable thermoset material be homogeneously mixed to form a blend of the material wherein the finished assembly had a uniform mixture of the two components throughout the thickness of the fastener.

Applicant argument that the reference to Frauenglass only coats the surface of the fastener with the resin is not persuasive for the reasons expressed above. No claims are allowed.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Olez et al suggested that those skilled in the art would have known to form a fastener from thermoplastic materials.

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 571-272-1212. The examiner can normally be reached on Monday-Friday 7:15-345 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on 571-272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeff H. Aftergut
Primary Examiner
Art Unit 1733

JHA